

A
Dissertation

on

Trachitis

Submitted to the inspection of the

Medical Professors

(and)

Trustees

of

The University of Pennsylvania
for the Degree of

Doctor of Medicine

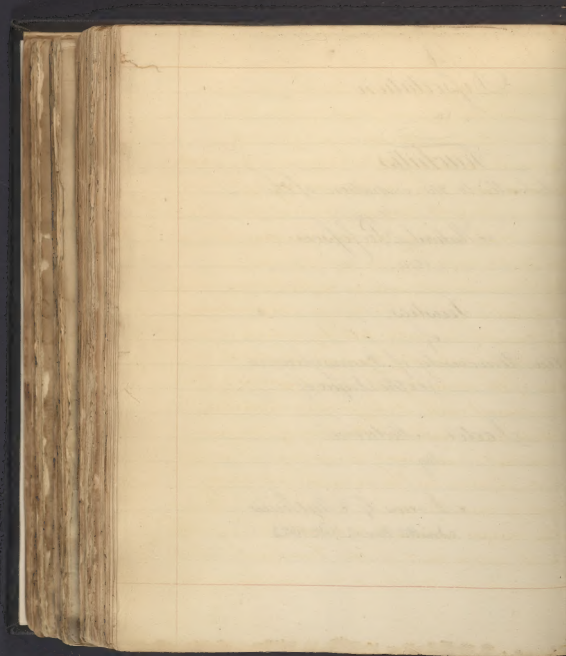
by

Amos G. Mathias

admitted March 16th 1822

S. G. Brown

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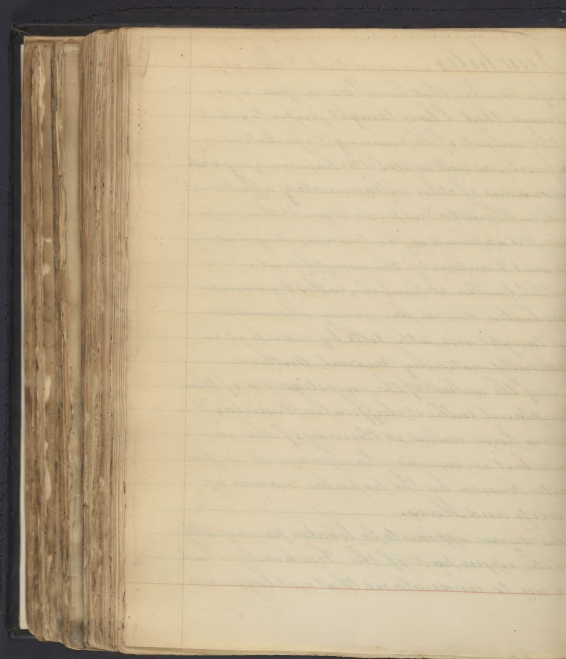
Tracheitis is a name, that I have chosen out of a number, that have been conferred upon a disease that I have thought proper to select as the subject of the ensuing Dissertation.

Its brevity, as well as its better harmonizing with the names of other inflammatory affections, such as *Pharyngitis* &c, appear to give it this preference, & it appears to go far towards designating the seat & nature of the complaint.

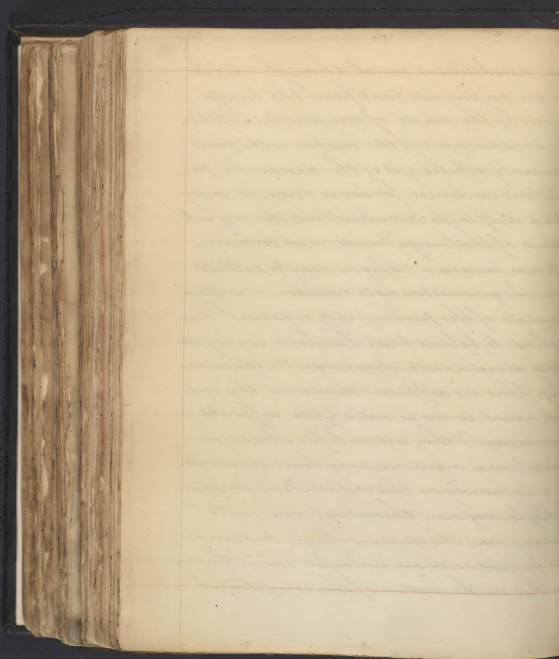
My Dr. Cullen, it has been called *Cynanche Trachealis*, and so far as my observation has taught me, with the title by which it is generally noticed by Medical Authors.

One of the earliest of the investigators of this complaint, called it *Suffocatio Stindula*; & others have called it *Stenosis* of the wind-pipe, but in common language it is far better known by the popular names of *Croup* and *Hoars*.

This disease, appears to be located principally in the upper part of the *Trachea*, by which we are to understand, that cartilaginous



and membranous canal, through which
the air passes into & out from the lungs
known by the name of windpipe. Altho
the superior part of the Trachea, is the part
primarily affected, yet if the disease be per-
mitted to continue for some time, it may
extend itself to the Bronchiae & into the very sub-
stance of the lungs. Under such circum-
stances, mucus, or phlegm, may be collected
in such quantities, as to occasion a suffoca-
ted state of the pulmonary organs. I am
inclined to believe that Trachitis is very cor-
rectly divided into spasmodic & inflamma-
tory. There are different theories on this sub-
ject, which to me is not a little difficult to
harmonize, & they are no less so because
several very ingenious men have expatiated
very copiously on this subject. But conform-
ably to my own theoretical view, after
having read the opinions of some Authors on
the subject with an unbiased mind, & having
reflected on the nature of the complaint

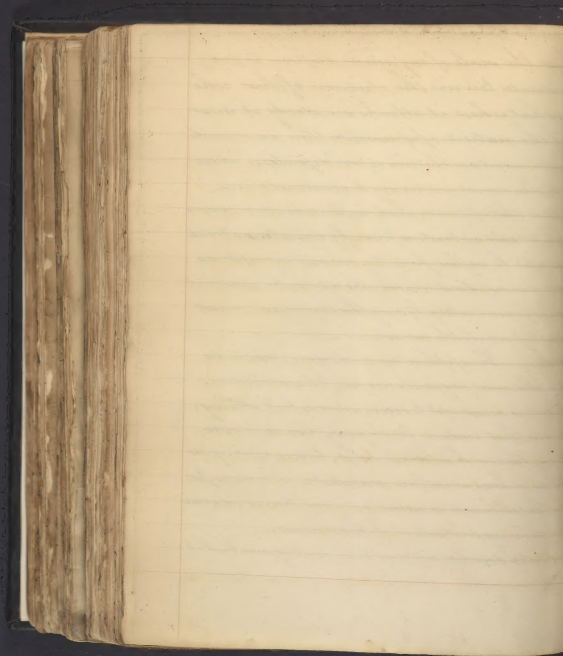


I find the scale of my mind disposed to preponderate toward the opinion of those who say that where it attacks suddenly it must be of the nature of spasm, as there are no marks of inflammation observed upon dissection, where death has occurred under such circumstances.

But it also appears that inflammation is sometimes a concomitant, as proved by dissections. It might also be inferred from the causes & symptoms of the disease. But whether the disease be spasmodic or inflammatory, I fancy the treatment must be pretty much the same.

Causes. The application of cold is supposed to be one of the most frequent sources of this complaint, hence it is most apt to occur in winter & spring; causes that induce fevers, may also be productive of this, it has been known to accompany as well as succeed smallpox, measles &c. Worms, infesting the alimentary canal, are mentioned as sometimes being productive of this disease.

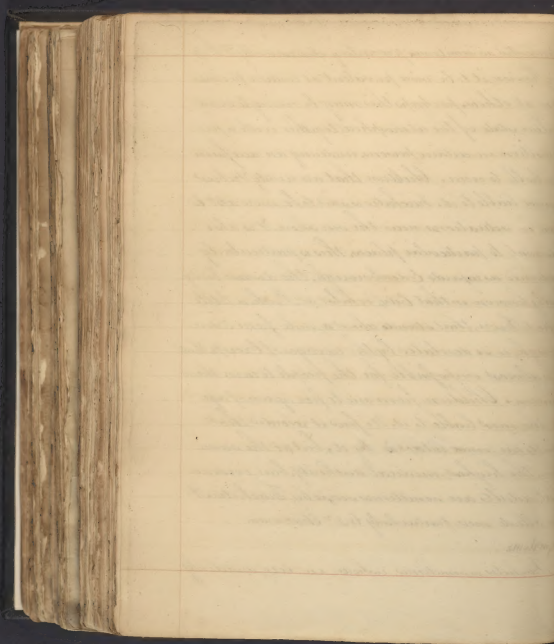
Trachitis does not appear to be contagious, but it



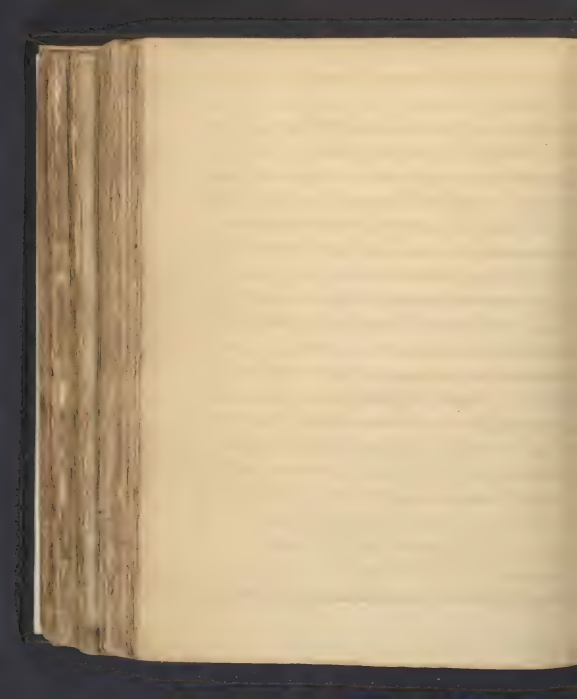
is represented as sometimes prevailing epidemically & I have known it to be more prevalent at certain periods than at others. perhaps this may be owing to some peculiar state of the atmosphere, together with a predisposition in certain persons, rendering an accession more liable to occur. Children that are weakly & robust are most liable to it. Trachitis is said to be more apt to occur, in situations near the sea shore, & is also endemic to particular places, this is particularly mentioned as regards Edenborough, the disease being hardly known in that City, whilst at Litch a little seaport Town, that stands about a mile from Edenborough, is so desolated by the ravages of Croup, that it is almost impossible for the people to raise their children. Children from one to five years of age are the most liable to it. We find it recorded that adults are never attacked by it, but at the same time, the highest medical authority, bear evidence that adults are sometimes seized by Trachitis, I here allude more particularly to Dr. Chapman.

Symptoms

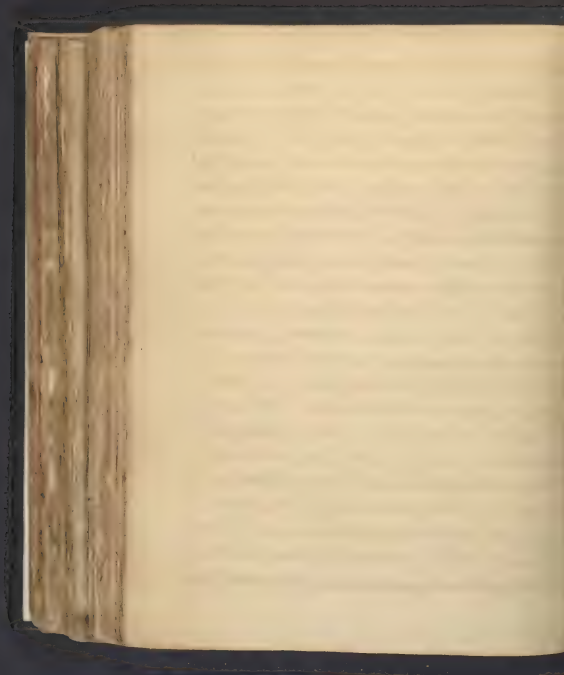
Trachitis is sometimes ushered in very suddenly



and with much violence, but more commonly it comes on in the guise of a common cold; the symptoms are generally described as follows viz. a day or two previous to an attack of this disease, the child appears drowsy, inactive & forgetful, the eyes are sometimes suffused & heavy, there is a cough that from the first has a peculiar shrill sound, this after some time, becomes more violent & troublesome, & likewise more shrill; every fit of coughing agitates the patient very much, the face is flushed & swelled, the eyes are protuberant, a general tremor takes place, & there is a kind of convulsive endeavour to renew respiration at the close of each fit, as the disease advances a constant difficulty of breathing takes place, attended with a swelling of the tonsils, uvula & velum pendulum palati, & the head is thrown back in the agony of endeavouring to waite inspiration, besides the sound produced by the cough, we find respiration is attended with a hissing noise, as if the trachea were stopped up with some light spongy substance. The cough is generally dry but if any thing is spit up, it has either



a purulent appearance, or seems to consist of films cover-
ing portions of membrane; when great increase suc-
ceeds with frequent retchings, copious matter of
the same nature is brought up, with these symptoms
there is great thirst & sense of heat over the whole body,
an inclination to change from place to place, restle-
ness & frequency of pulse. Finally, respiration becomes
more stridulous, & is performed with still greater dif-
ficulty, & with some degree of spasmodic affection.
Some repeated at longer periods & with greater exertions
until at last it ceases entirely. In one case I saw
death appear to occur from a collection of phlegm &c.
being detached by coughing, the patient being unable
to reject it, stimulation, attended with a convulsive ef-
fort put a speedy termination to the little sufferer's
existence, it also, however, is not by spasm affecting the
glottis, but when it terminates in health it is by
resolution of the inflammation, by a separation of the
pus, & by a free expectoration of the matter
issuing from the trachea, or of the crusts formed there.
The unfavourable symptoms are, considerable
difficulty of breathing, great anxiety, violent fever



ness, & irritation. The voice becoming more shrill; the
disease in some instances has proved fatal. At other
times however at other times it has run a course
of several days. Some have it just under for several
days, some relief having been obtained by purging &c
The Physicians then left the disease to wear itself out
the child continued for near a week, & then died, with
a very severe cough till at length a sudden relapse
took place & a sudden disposition was the issue.

Dissections, we are told, present the following appearance
viz. 1st a white thick matter resembling mucus.

2nd a slight degree of inflammation.

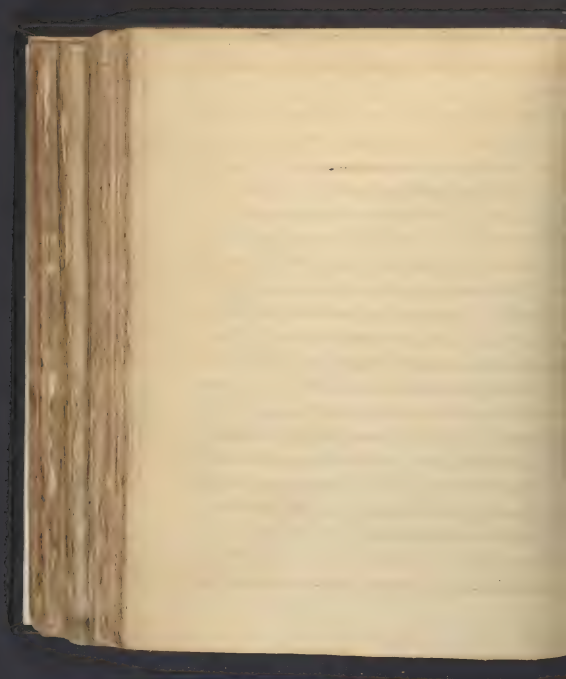
3rd a membrane, resembling that which follows in
inflammation of the pleurae and bowels, formed of
the coagulated lymph of the blood.

4th In some cases the Trachea exhibits no marks of
disease of any kind.

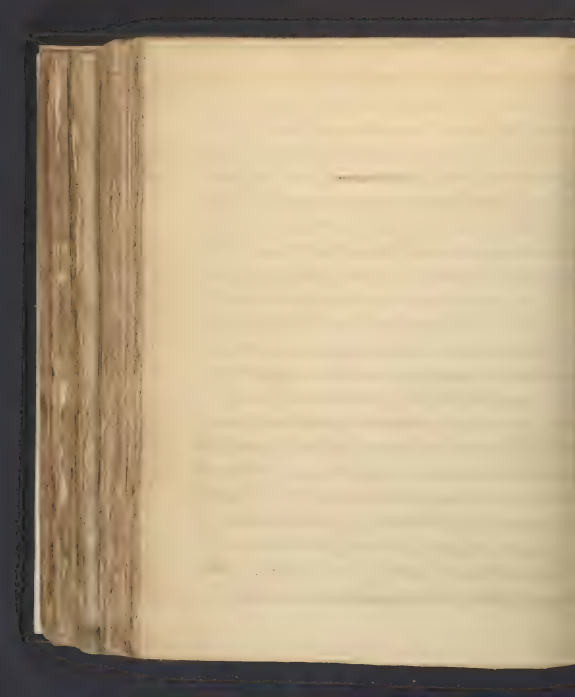
With respect to the membrane above alluded to there
is a diversity of opinion some say that dissections
always exhibit it whilst others aver that it is of com-
paratively rare occurrence, to this ^{latter} opinion I feel dis-
posed to give evidence. I would therefore consider it as

a rare occurrence & an effect, not a cause of the disease.

Treatment, Various have been the speculative views with respect to the best mode of treating this complaint. It being "this want of coincidence in the minds of some practitioners still appears to be extant. In the present case, I shall hasten to pass on, to take notice of such means which to me appear the most judiciously adapted to meet the indications of the case, viz. subdue spasm, remove inflammation & confirm convalescence. It may not be amiss for me to mention that in this bilious disease, we rapid in its progress, & often fatal in its termination, when timely remedies have not been used, it behoves us to lose no time in using prompt & efficient remedies. By the Professor of the institutes & practice of medicine in this school we are taught with high toned confidence a method of managing this complaint that appears hitherto to have proven uniformly successful; I therefore consider me to acknowledge, that it is to him I am indebted for the views I have imbibed with

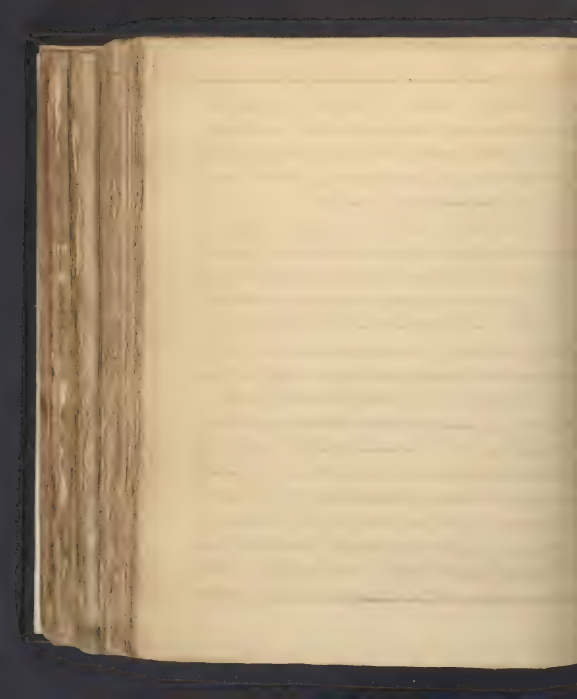


respect to the mode of managing this disease. But
then I must claim the privilege of doing to myself the
justice of stating, that in making up my mind on
this point, I have endeavoured to be led by the ^{usual} ~~usual~~
sentiments, rather than ^{by} ~~by~~ ^{larger} ~~larger~~ ^{principles} ~~principles~~ that pervade the judgment.
we should begin by endeavouring to remove the chlo-
riform, Sialar Emetic for this purpose is preferred.
the mean while the chlo should be placed in the
warm bath, kept there for ten or fifteen minutes
this is a very useful adjunct, in helping to promote
the operation of the emetic; but should the emetic
fail to operate, or should the operation have proven
ineffectual, copious bleeding should be resorted to
afterwards repeat the warm bath & emetic, till
about must be very obstinate if it do not now
yield. If the disease should still continue with little
or no abatement, we are to have recourse to topical
bleedings, viz. bleeding with either leeches or cupped
afterwards the application of a large blister, from
one ear to the other; When the preceding rules fail,
or the symptoms are very alarming, we are then to bleed
till syncope takes place; this appears to be a rule

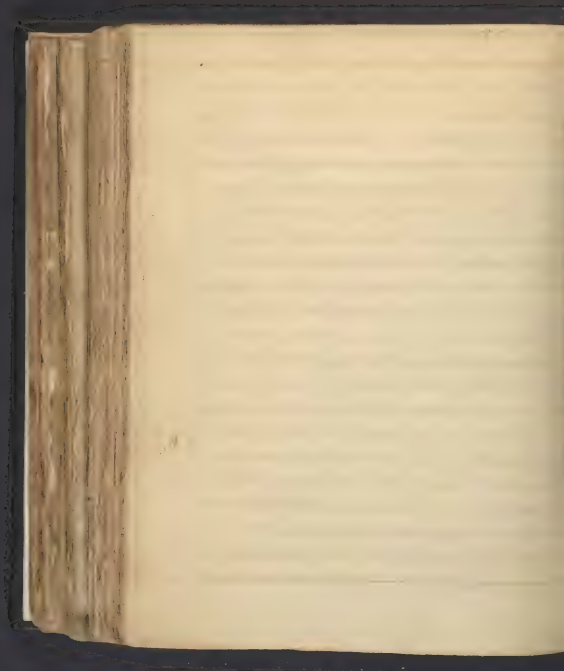


practice, but still at such a juncture as above allu-
ded to, I would not hesitate a moment from employ-
ing such means, considering the high and laudable
we have for the practice & the happy consequences
that attend it, viz. the disappearance of the hoarse-
ness, cough & difficult respiration &c.

But the above plan, is quite to the early stage, pre-
vious to a suffocative state of the pulmonary organs
taking place: the disease being then broken, which
is evinced by a removal of the preceding symptoms &
a restoration of the natural susceptibility of the
system to the action of remedies, saltern is advised to
be given in the largest possible quantity, in order
that it may the more speedily & actively purge,
so that it may carry off the lurking symptoms &
obviate a relapse. The pulvis eger. sinica, is common-
ly used as an expectorant when cough & hoarseness with
tightness of the chest & difficulty of respiration remain.
A few drops of laudanum given in flaxseed tea, is
said to have very salutary effects, by quieting the cough
that attends the latter stages of this disease. Various
articles are used in the declining stages of this complaint



such as garlic digested in vinegar, & the liquor tartar in
a portion of honey: the suppositoires, or tea, or given
by way of infusion, or combined with the liquorice or honey;
the syrups of squills &c. — As to the cases of Trachitis
that have fallen under my care, have been of the milder
kind: I have been able speedily to relieve them in every
instance by the aid of Dr. Cox's hives syrups in conjunc-
tion with the warm bath. One case, however, occurred last
October, that attacked the child violently. I was called on
about 9 o'clock in the morning in haste to see the child
being a few hours after the attack; the child breathed
with very great difficulty & had many marks of a vi-
olent attack, but I am happy to say, that by the use of
this syrup & the warm bath, I left the patient at eight
in the morning free from all the symptoms of the dis-
ease & a continuance of the medicine as an expectorant,
completely established her health: — the child was near
two years old. — The syrup I made according to the
Dispensatory. — I have now detailed that mode
of treatment, which I would judge a priori, would be
the most likely to subdue the fire & to quench the
remains of Trachitis, the utility of which is fully



confirmed by the experience & testimony of some of the
most able authorities we possess.

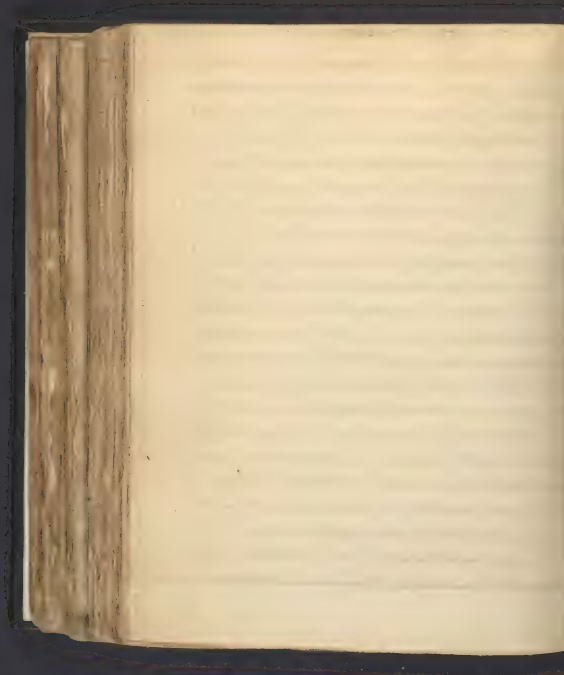
Much has been said with respect to the utility of
calomel in this complaint, some use it to the exclu-
sion of every other remedy, Dr. Hamilton, Professor
of Midwifery, ^{at Edinburgh} is a warm advocate for the practice.
One might suppose that he gave it with a temera-
rity, even were we not apprised of the inacceptability
of the system to remedial efforts; it is stated that
two or three drachms of calomel have been given in
this disease to a child of two, three years old, within
twenty-four hours!! and it is said to be productive
of the most salutary effects. I have never seen calomel
used for the cure of this complaint, but I have seen
it used in another disease of the lungs, (Pneumothorax)
& with astonishing success. The patient, a boy of thir-
teen years of age, had been annoyed for several years
with asthma, the disease grew worse almost daily, &
sometimes, for weeks, he would be a perfect stranger to
sleep, & moved in a horizontal position, all the usual
remedies had been employed by his Physician, but with-
out any good effect last summer I was called to see



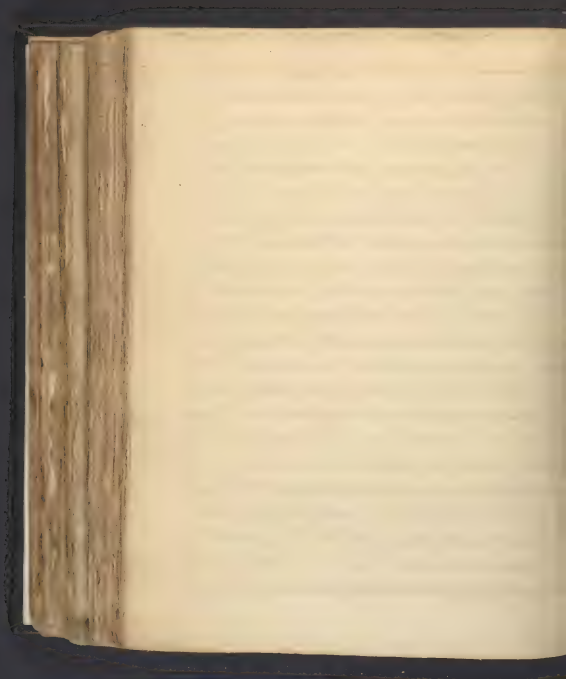
the patient, I found him labouring under the severest
symptoms of Asthma, & understanding & executing
what had been already done, I gave him large doses
of calomel viz. grs X or more, in the afternoon of Dr.

Chapman, & with a speedy relief of the symptoms; at
the commencement of the paroxysm was the time I
gave it, the dose was repeated two or three times & health
established by means of preparations of iron,

Judging from analogy, of the success of calomel in
the above instance, I am inclined to think favoura-
ble of it in Croup, but as respects its modus operandi
I can say little, but there seems to be some diversity
of sentiment on this point. Were I to judge from what
I have observed of the effects of calomel in some
other diseases, exclusive of Croup, I would judge
that it acted rather by nauseating, relaxing, purging
& urging, & by this means removing spasm & in-
flammation, & by the high authority to whom I
am so much indebted for the treatment I have
heretofore mentioned, we are assured it is a very
active expectorant, by which the bronchial vessels
are enabled to discharge their load of mucus.



but there are some who do not look on Crocus as an in-
flamatory affection, therefore administer Calomel
with a view to its stimulating effects, as well as purge.
By the advocates of this theory, the use of venesection
is denied in this complaint, availing that it actually
does harm; from such notions I must aver my dis-
sent, unless I should become convinced by future
experimental demonstration. Dr. Eliot & Dr.
of Connecticut says he has never met with more
than one case of this disease, that was compli-
cated with inflammation, & this patient he bled, it
being the only instance in which he bled during
eighteen years practice. Here I do use Calomel in the
disease, I should certainly call in venesection, warm
bath, & blisters occasionally as coadjutors in urgent
cases; I am acquainted with a very respectable
Physician in this City, that uses a prescription
that contains a large portion of Calomel & the re-
sult of his practice has been such, as to afford him
the highest satisfaction with the remedy, death
never having taken place, where circumstances have
been such as to afford him any prospect of cure:



the recipe I shall here exhibit.

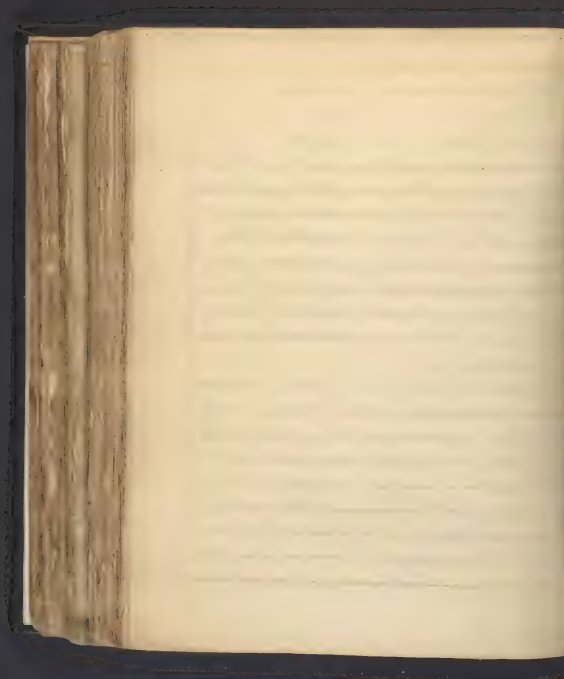
R. Crocus glass of antimony. — gr. XXIV

Cal. ppt. — 3℥.

Pulv. Spicac. — 3℥. M.

And let it be divided into three equal parts & give one of them every half hour in a little sugar water, to a child from one to two years old, the glass of antimony to be increased in proportion to the advancement of the child's age & vice versa; when the child is very active he bleeds from the gums & bestowes on the above remedy, I am inclined to believe it to be a very valuable preparation for Croup.

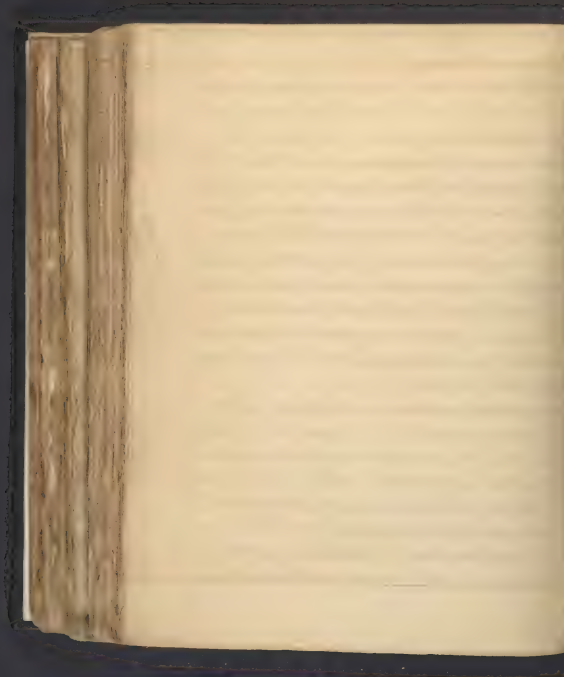
It is sometimes of use to rub the Throat with some unobnoxious application. & strict adherence to the antiphlogistic regimen should be enjoined. Inhaling vapour arising from warm water, with a small addition of vinegar, may possibly be a good auxiliary, both in lessening the violence of the spasms & assisting expectoration. The niter sulphureus has been brought forward as a cure for croup, but not much dependence appear at present.



to be placed in the remedy.

bronchotomy, it appears, has been proposed & performed, in order to remove the pathological membrane that sometimes lines the inner surface of the trachea, owing to the superstitious importance that has been attached to this membrane, on the opinion of the practice I shall merely observe, that from the fact being fully ascertained, that this membrane is very often wanting, & the effectual means we possess of managing this complaint, as well as the probability that it will soon be reproduced if removed by a surgical operation, I am led to believe that the operation should be performed very rarely, or rather not at all.

I have already mentioned in the foregoing part of this treatise, that when this disease is left to run on for some time uninterrupted, it extends itself down into the very substance of the lungs, producing effects which characterize an interrupted & defective circulation of blood through the lungs, which from their loaded & oppressed condition, are unable to execute their functions. The countenance



at the same time mottled, the cheeks have a crimson tinge, flush with some mixture of lividness the eyes are prominent & inflamed, the pupil is often widely dilated, attended with an expression of countenance with Stagnation, the respiration is now either laborious with a full distended trachea, or the chest sinking under the disease, heaving respiration rather more tranquil with a weak irregular pulse. The cure as indicated by these symptoms, is to be conducted upon the plan of endeavouring to relieve the lungs & establish a free & regular circulation which we must first endeavour to fulfil by means of the warm bath,

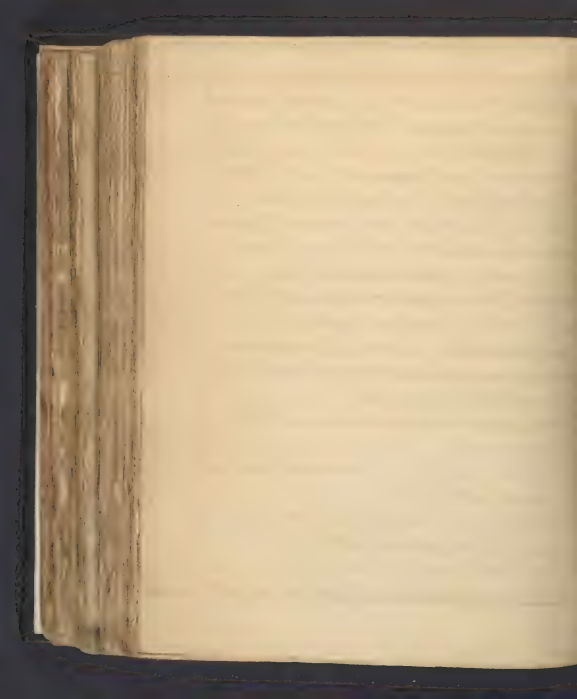
2nd Vomiting with the most active emetics,

3rd Venesection,

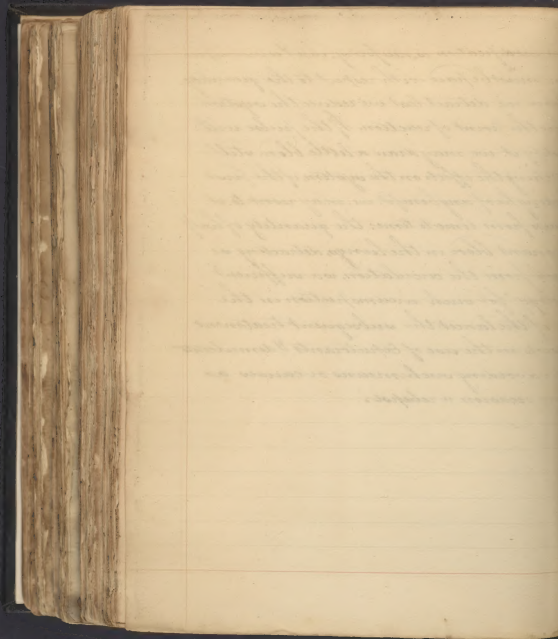
4th Topical depletion by means of cups and leeches to the chest

5th A blister over the whole chest, or some more speedy vesicatory should be used.

This treatment seems to be nearly synonymous with that recommended in the first stage, but



some modification is necessary; care & circumspec-
tion, must be paid with respect to the quantity
of blood we detract, lest we reduce the system
below the point of reaction. If the pulse will
justify it, we may draw a little blood, still
watching the effects on the system, if the first
bleeding be of any benefit, we may resort to it
again from time to time: the quantity of half
stagnant blood in the lungs, detracting so
much from the circulation, is a sufficient
apology for such circumspection in the
use of the lancet: the subsequent treatment
consists in the use of Expectorants & demulcents
& the avoiding such means or causes as
may occasion a relapse.



On

Long

Lyman



Lyman

Lyman

